Stephen H. Williams

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Summary

I'm a software design engineer with extensive experience in the computer industry. Most of my experience is in graphical user interface design for Integrated Development Environments, data visualization, performance tools, and debuggers, but I'm quite interested in branching out to other types of graphical interfaces. I've also done extensive work on the many layers of software underpinning graphical user interfaces.

Objective

Challenging work in software development with a dynamic and creative team. I particularly enjoy designing and developing graphical user interfaces.

Technical Skills

Languages: Java,C, C++, Python, Javascript, SQLite, and others
Graphical: Eclipse, Swing, Motif, HTML

Work Experience

Hewlett-Packard Corporation 1989 to present

Software Design Engineer *(2008 to present)*

Technical and project lead for the HP NonStop Development Environment for Eclipse (NSDEE).

- Implemented remote debugging in which a graphical debugger would drive a remote debugger program on a NonStop server.
- Designed and implemented a connectivity model shared across all parts of NSDEE (deployment, file transfer facilities, editing remote files, debugging) with support for SSH, SFTP, Telnet, and FTP.
- Implemented an Eclipse File System for both Guardian and OSS (UNIX) file systems on NonStop servers, which allowed remote file systems to appear to be local in Eclipse.
- Extended the C/C++ Development Environment for Eclipse to support building NonStop C, C++, COBOL, pTAL, and SQL programs.
- Designed and implemented an automated GUI test framework that extends SWTBot and has allowed developers to automate several thousand GUI tests.

Software Engineer *(2005 to 2008)*

Technical lead for the HP Caliper GUI, a GUI which provides a graphical interface for gathering performance data and sophisticated data visualization with the ability to drill down from a high-level view of processes to source and disassembly for individual processes or across images shared by multiple processes.

- Designed the HP Caliper GUI based on the Eclipse Java platform and led the team in its implementation.

- Designed and implemented Python-driven HP Caliper GUI test suite using low-level OS interface to Eclipse event handler.
- Provided many customer and conference demos of the HP Caliper GUI and gave numerous conference presentations and webinars.

Software Engineer *(2001 to 2005)*

Member of the HP Caliper team responsible for all aspects of user interactions with HP Caliper.

- Designed all Caliper reports on performance metrics such as IP samples, data cache misses, and branch predictions. Reports displayed these metrics for an entire system and grouped the metrics by executables, load modules, functions, source, and machine instructions.
- Implemented HP Caliper's command tool interface and all reporting software (reports generated in ASCII, CSV, or HTML/Javascript formats, including all three at once).
- Designed and implemented binary data file storage of performance data and, later, designed and did initial implementation of HP Caliper databases (built on SQLite).
- Participated in the development of the HP Caliper test suite in Python.

Software Engineer *(2000 to 2001)*

Member of the Visual Tools Team.

- Maintained WDB GUI (a Motif interface to gdb for HP-UX).
- Prototyped command tool for a parallel debugger.
- Designed and prototyped a data visualizer for a new performance tool, HP Caliper.

Software Engineer *(1998 to 2000)*

Member of the HP WDB debugger Team.

- Worked with team in Fort Collins on a Motif-based, Open Studio-like graphical user interface for the HP-UX debugger.
- Participated in developing a CORBA backend for the debugger GUI.
- Took over complete ownership of the GUI for a year, providing all new features, defect fixes, and testing.

Software Engineer *(1994 to 1998)*

Worked on many products in various roles during this time..

- Design and implemented a Motif-based GUI that used third party software to provide graphical overviews of data with drill-down ability to view sample data across all performance metrics.
- Maintained HPPAK (performance tool) and Blink Link (incremental linker).
- Maintained xdb debugger on MPE operating system.
- Implemented on-line help system and other debugger features for HP DDE.
- Ported DDE test suite from Domain OS to HP-UX and expanded is features and coverage.

Technical Writer *(1989 to 1994)*

Joined HP on an Apollo Computer requisition as a technical writer.

- Wrote documentation for embedded Ada, Domain Software Engineering Environment (forerunner of ClearCase), and the HP Distributed Debugging Environment.
- Wrote widely used tools to convert Interleaf documents and images to other formats (used extensively to move much of the legacy Apollo documentation into HP's company-wide on-line documentation format).

Education and Training

M.S. Computer Programming (50% complete), Northeastern University, MA
Certificate of Technical Writing, Middlesex Community College, MA
Certificate in UNIX Programming, Northeastern University, MA
One-year Fellowship at University of Louisville, KY in psychology
B.A. Psychology, Castleton State College, VT